REMARKS

Claims 30-41, 45-59, and 237-239 are currently pending in the application.

Claims 30, 34, 38, 45, 49, and 53 are currently amended in this response.

In the Office Action, the Examiner allowed claims 57-59, objected to claims 45-56, and rejected claims 30-41 and 237-239.

Applicant thanks the Examiner for allowance of claims 57-59.

Applicant has rewritten claims 45-56 to overcome the Examiner's rejection based on the rejection of the previously submitted independent claims.

Applicant has amended independent claims 30, 34, and 38 to over come the Examiner's rejections.

The Response to the Rejections are set forth below.

Response to Section 103 Rejection of Claims 30, 32-34, 36-38, 40-41, and 237-239

The Examiner rejected claims 30, 32-34, 36-38, 40-41, and 237-239 under section 103 given Grefenstette ("The World Wide Web as a Resource for Example-Based Machine Translation Tasks") in view of Koehn et al. ("Estimating Word Translation Probabilities from Unrelated Monolingual Corpora Using the EM Algorithm"). In response to the rejection of claims 30, 32-34, 36-38, 40-41, Applicant respectfully submits that the Grefenstette and Koehn

references have been misapplied as the basis for rejection under 35 U.S.C. § 103(a).

As discussed by the Applicant in the previous Amendment (November 20, 2008), Applicant's invention teaches a method for automatically translating between languages without the use of word ordering rules, and can apply this translation to lengthy word strings. Applicant's prior Amendment addressed this point by amending the claims to recite that no ordering is necessary for the phrase to be translated.

Thus, Grefenstette discloses translating a query consisting of a noun phrase (a string of words) such as *groupe de travail.* As discussed in Applicant's November 20, 2008 Amendment, Grefenstette requires that this word string – before it is translated – be manually reordered with *travail* in the first position, and *groupe* in the second position. Translation of the words in these positions is then accomplished by identifying occurrences of the words, in these positions, in a second language corpus. Applicant's invention does not require that the words be "repositioned" manually before translation occurs and can be applied to word strings of any length (i.e., two words or longer).

It is not happenstance or a coincidence that Grefenstette *re-orders* the individual word translations to form possible noun phrases "by simply re-ordering the nouns and concatenating them to form English phrases" before searching them in the corpus of documents in the second language. The reason

Grefenstette does this is that for the invention to have any hope of reasonable accuracy in its results, it needs to perform that step. It would be wholly illogical to perform such a step if it weren't designed to meaningful add to the accuracy of the results.

The Koehn reference, in combination with Grefenstette, does not render the claims obvious, as set forth by the Examiner (citing page 713, col. 1 of Koehn, among other sections). Koehn merely discloses the ability to select the correct translation word in a given sentence context using corpora in both the first and second language. This process – known as disambiguating the meaning of individual words – is a well known exercise in statistical machine translation. The Examiner references Koehn to illustrates how a language model can be used to accurately identify the English translation of a German word. But that German word itself is a compound, which means that they are (by nature of the German language) idiomatic phrases which necessarily are combined of two related words. Thus, Koehn discloses is a bi-gram disambiguation model – disambiguating a single word based on a word next to that word (in this case the two sections of the compound word).

Applicants' claims 30, 32-34, 36-38, 40-41 and 237-239 recite an invention that instead *generates* all combinations of translations for individual words in a word string of any length – not a single word, as disclosed in Koehn. Moreover, the combination of Grefenstette in view of Koehn does not render claims 30, 32-

34, 36-38, 40-41 and 237-239 obvious under section 103. Using the phrase from Grefenstette – group de travail – as an example – Koehn does not disclose how to translate this phrase. Indeed, the combination of Koehn and Grefenstette teaches away from idea of claims 30, 32-34, 36-38, 40-41 and 237-239 because applying Koehn would change the correct result of translating "groupe de travail" to an incorrect result. If the illustration in Koehn to search the component words of the compound Unschuldsvermutung is applied to translate the words of the noun phrase "groupe de travail" separately without regard to the order of the individual words, inaccurate results would be returned. For example, if word order restrictions imposed by Grefenstette are eliminated and a search is conducted (using Google for instance) for both "work group" and the same words in reverse order, "group work", group work has a higher frequency ("work group" has over 2.9 Million references but "group work" has over 3.5 Million).

Using the actual example from Grefenstette one can see how if that invention does not restrict the word ordering using grammar rules the search of the second language corpus for combinations of translated words will not work to provide results with any accuracy for only two word combinations. As one expands those word strings to more words, the combination of possibilities get exponentially larger and the accuracy will be far worse. Therefore it would not

be obvious to expand Gregenstette in light of Koehn to allow different word orders.

In addition, Applicant has amended independent claims 30, 34, and 38 to more clearly recite that the claims do not require any specific ordering as disclosed by Grefenstette in view of Koehn.

Response to Section 103 Rejection of Claims 31, 35, and 39

The Examiner rejected claims 31, 35, and 39 under section 103 given Grefenstette ("The World Wide Web as a Resource for Example-Based Machine Translation Tasks") in view of Koehn et al. ("Estimating Word Translation Probabilities from Unrelated Monolingual Corpora Using the EM Algorithm") and in further view of Tominaga (U.S. Pat. No. 5,311,429). Because Applicant submits that independent claims 30, 34, and 38 (from which the contested dependent claims derive) are not obvious in view of Grefenstette and Koehn (discussed above), Applicant submits that the further consideration of the Tominaga reference does not render the claims 31, 35, and 39 obvious.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #101205.55175C6).

Respectfully submitted,

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